

ABSTRACT

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Disclosed is a method for chemical analysis of drilling-, drill-in, completion-, formation-, and production fluids, which may be employed at rig site or in a remote location, comprising:

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a) Collecting samples of fluids from predetermined fluid collection points where the drilling-, drill-in-, completion-, formation-, or production fluid are flowing or stored ;

b) Introducing said samples into a microfluidic system for chemical measurement, optionally operably connected to a computing device;

c) Executing one or more selected tests on said microfluidic device;

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d) Providing a means of detecting results of the tests and generating data;

e) Translating said data to provide results of said analytical test; and

f) Monitoring said results to adjust selected aspects of the drilling, completion, and production operations.

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